

ABSTRACT

Circuits, architectures, a system and methods for protecting against overvoltages in a high-speed differential signal or circuit. The circuit generally includes (a) a differential signal transmission line, (b) a common mode circuit coupled to and configured to reduce a swing of the differential signal transmission line, and (c) an overvoltage protection circuit coupled to the common mode circuit, wherein the common mode circuit is electrically interposed between the overvoltage protection circuit and the differential signal transmission line. The architectures and/or systems generally include an integrated circuit that embodies one or more of the inventive concepts disclosed herein. The method generally includes shunting the overvoltage to a ground potential through the termination circuit when the differential circuit receives the overvoltage, but otherwise processing the differential signal through circuitry coupled to the differential circuit. The present invention advantageously provides a satisfactory level of overvoltage protection for nearly all applications in which conventional CMOS circuitry can be used, while at the same time, having very little, if any, adverse effect on differential data signal transmission speed.